Global War on Terrorism Overview
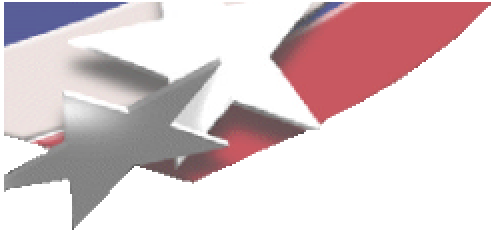
Gerold Yonas

Vice President and Principal Scientist

Sandia National Laboratories
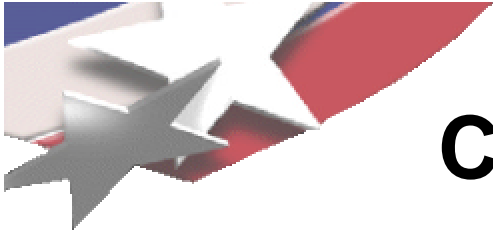
Sandia
National
Laboratories

My thinking on global war began in the '70s

- Interest in the Cold War, studied the work of Marshall Ogarkov, and his concept called "reconnaissance strike complex."

    - Precision knowledge (things)/precision strike (things)

- Sun Tzu (Chinese strategic thinker) *The Art of War*

    - Precise knowledge about how the enemy thinks.

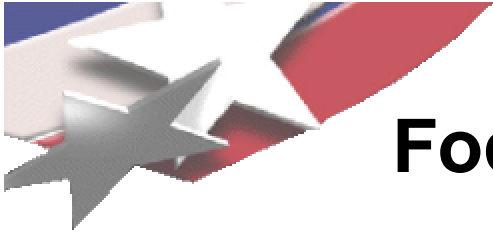   - Defeat the enemy through deception.

Continued during the '80s

- SDI (Star Wars)
- Asymmetric response to Soviet Union's strategic nuclear weapons buildup
- War about things (real weapons) and mind war (unreal weapons)
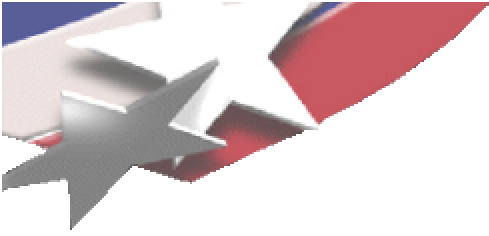- Seeking technical advantage, not necessarily technical weapons

Focused on terrorism in the '90s

- Economic war with Japan: a war we had already won, but didn't know it. Japan was already in decline.
- Emerging Threats SBU, a Sandia Business Unit (concern was global terrorism)
  - Looked at many events, including the first World Trade Center bombing.
  - Influenced by Steve Emerson's video *Jihad in America*
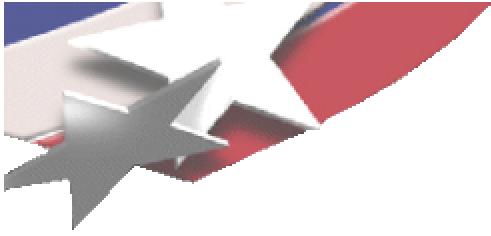
Focused on most severe threats in '00s

- Started Advanced Concepts Group ('99), focused on long term threats to the security of the U.S.
- UTAW study: invented an orchestrated asymmetric attack on our country which would
  - Destroy the fabric of U.S. society, our economic well-being, health, civil liberties, environment and cultural heritage.
  - Cause citizens to engage in destructive acts
    - Lose faith in our institutions
    - Make our economy dysfunctional
    - Undermine the will to fight the threat
    - Spread cynicism and revolution
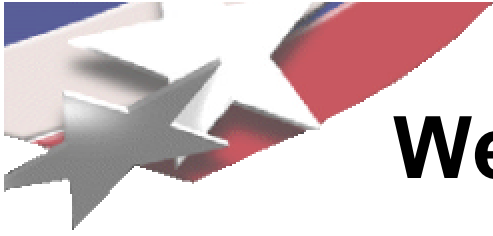
UTAW -- '00

- UTAW scenario 1 - August '00
  - Iraq creates false flag operation using fundamentalist Muslims
  - Carries out infrastructure and bio attacks
  - Creates wide spread suspicion of Muslims and blacks
  - Creates perception that government is over reacting
  - Muslim community becomes radicalized
- Conclusion: seemed unlikely

UTAW -- '01

- UTAW scenario 2 - February 01
  - Began with same perpetrators - Iraq working through Osama bin Laden.
  - Many attacks (violent incidents) escalating to bio, radiological weapons.
  - Tie incidents to Osama bin Laden
  - U.S. vacates Middle East
  - End result: Iraq declares final victory.
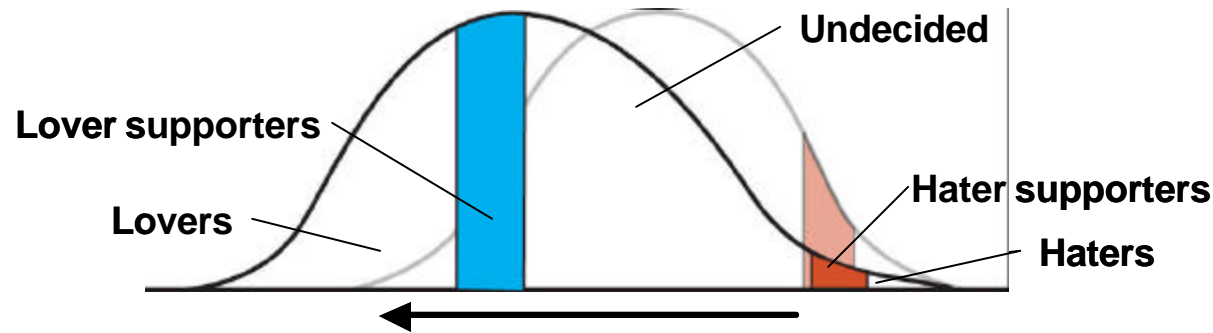- Conclusion: unlikely

We were close -- but not that close

- UTAW conclusions
  - Only Iraq or China could do this.
  - Our diversity and interdependencies across geopolitical boundaries make homeland defense difficult
  - We have real vulnerabilities through manipulation of race and ethnicity -- but…
  - Orchestrated asymmetric attack over a long time is highly unlikely and unlikely to work…but if it did work, it could be devastating (high probability, high consequences)
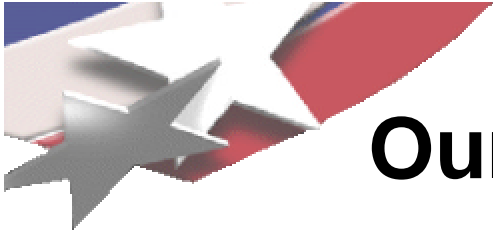
Since 9/11: we have been working on a strategy to win the global war on terrorism

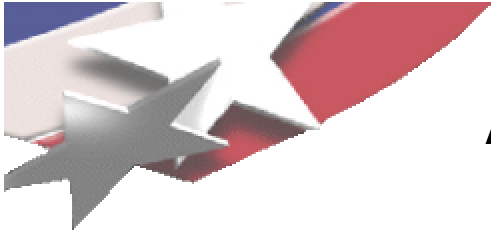**Goal: understand the society and shift the distribution in our favor**

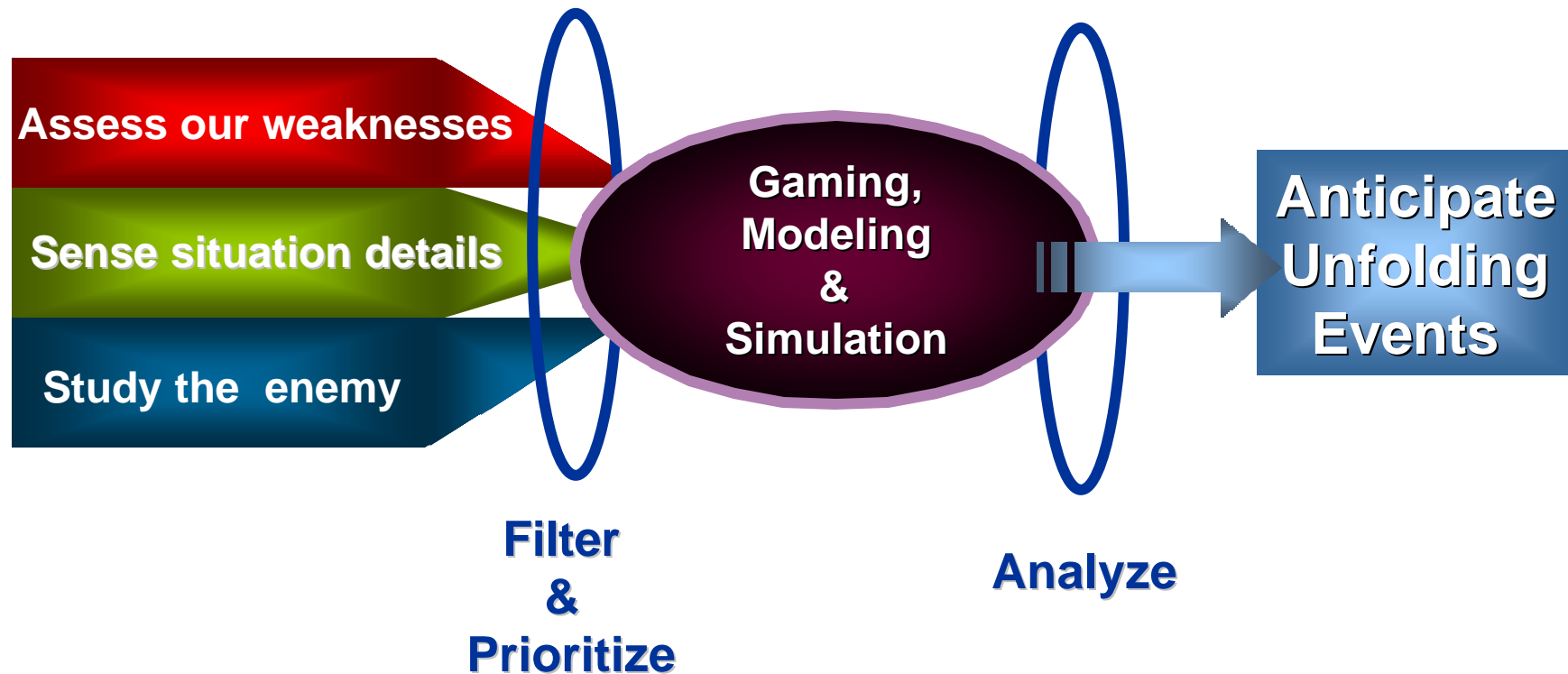|	Create more of	Create less of
Haters	fear	faith in their fundamental beliefs
Supporters of haters	uncertainty	trust of the haters
Undecided	hope for the future	faith in haters cause
Supporters of lovers	positive results	uncertainty
Lovers	generosity, confidence, altruism	fear

Our perspective on the future

- WW II and the Cold War were conflicts against states
  - The primary emphasis was on things:
    - Industrial production
    - Military weapons and forces
    - Technologies
- The Global War on Terrorism is a war about ideas
  - "It's the people, stupid"
  - It moves the focus more to motivations and behavior
- How can we anticipate the future?

A strategy for understanding and anticipating the threat

Assess our weaknesses

Sense situation details

Study the enemy

Gaming, Modeling & Simulation

Anticipate Unfolding Events

Filter & Prioritize

Analyze

The quest to avoid surprise will require optimal use of humans and machines through gaming, simulation, brain/machine interfaces & advanced sensors.
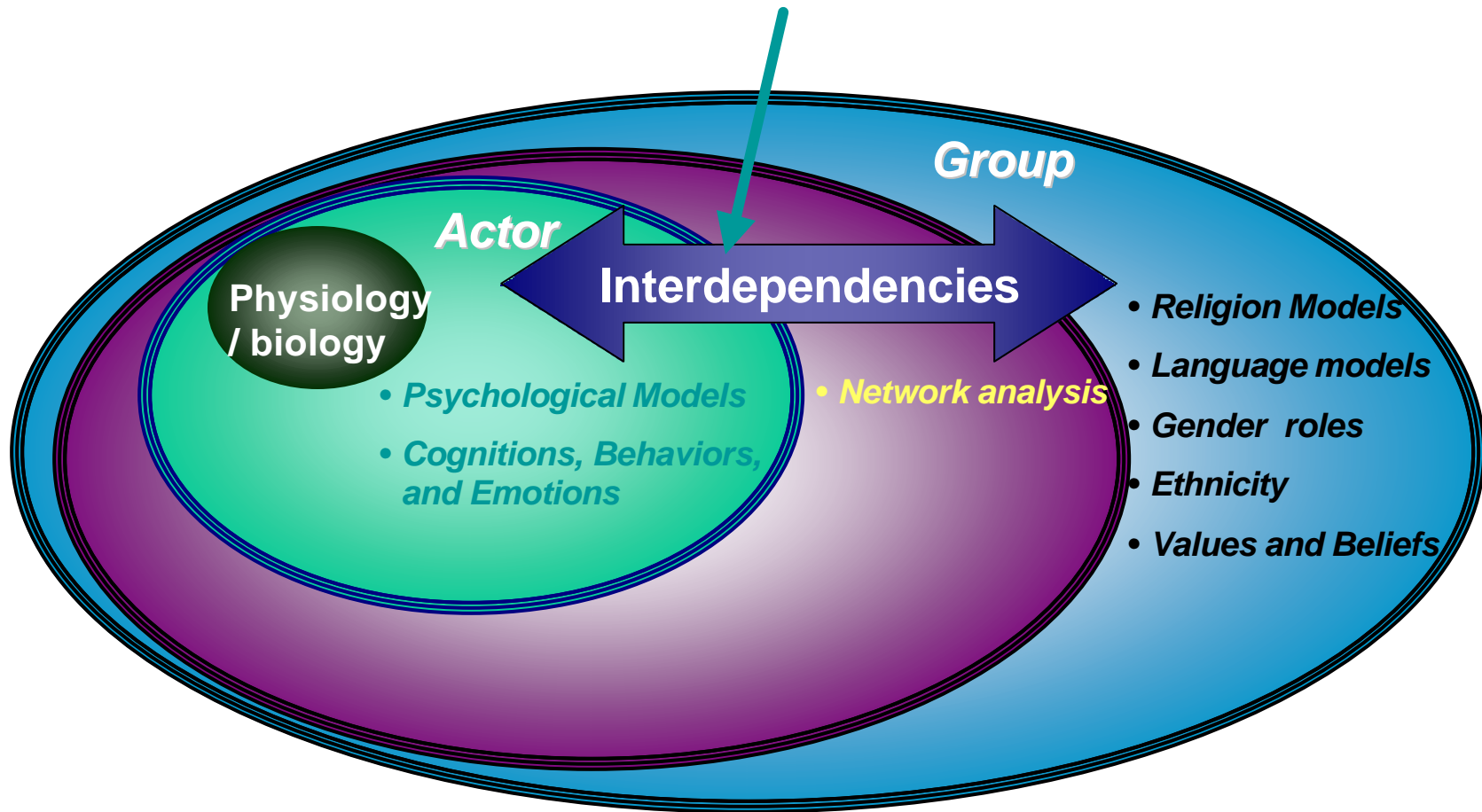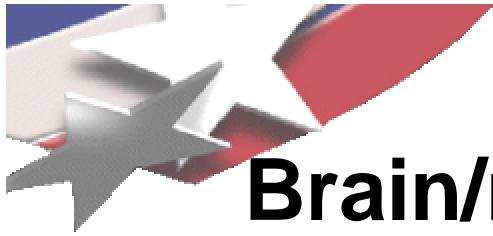
National Counterterrorism University

Social/psychological simulation

MODEL REALM

Group

Actor

Physiology / biology

Interdependencies

- Psychological Models
- Cognitions, Behaviors, and Emotions

- Network analysis

- Religion Models
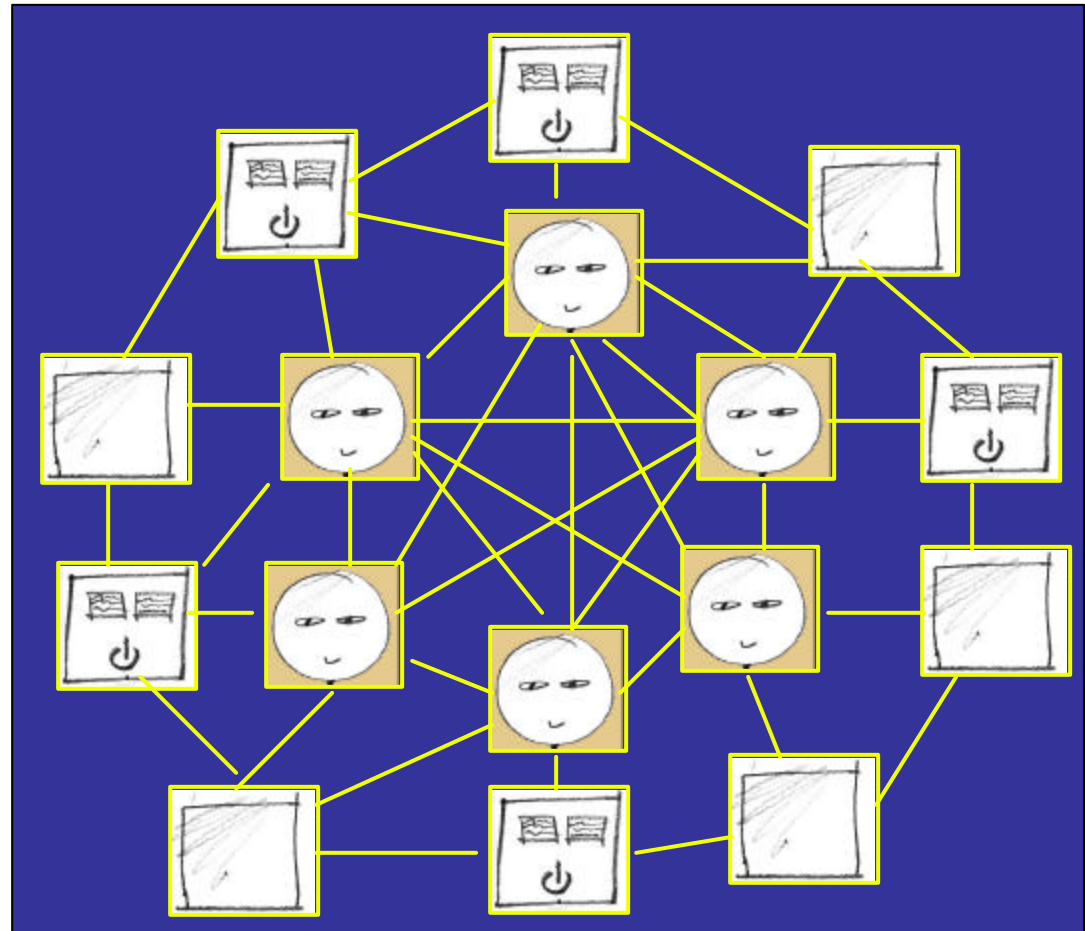- Language models
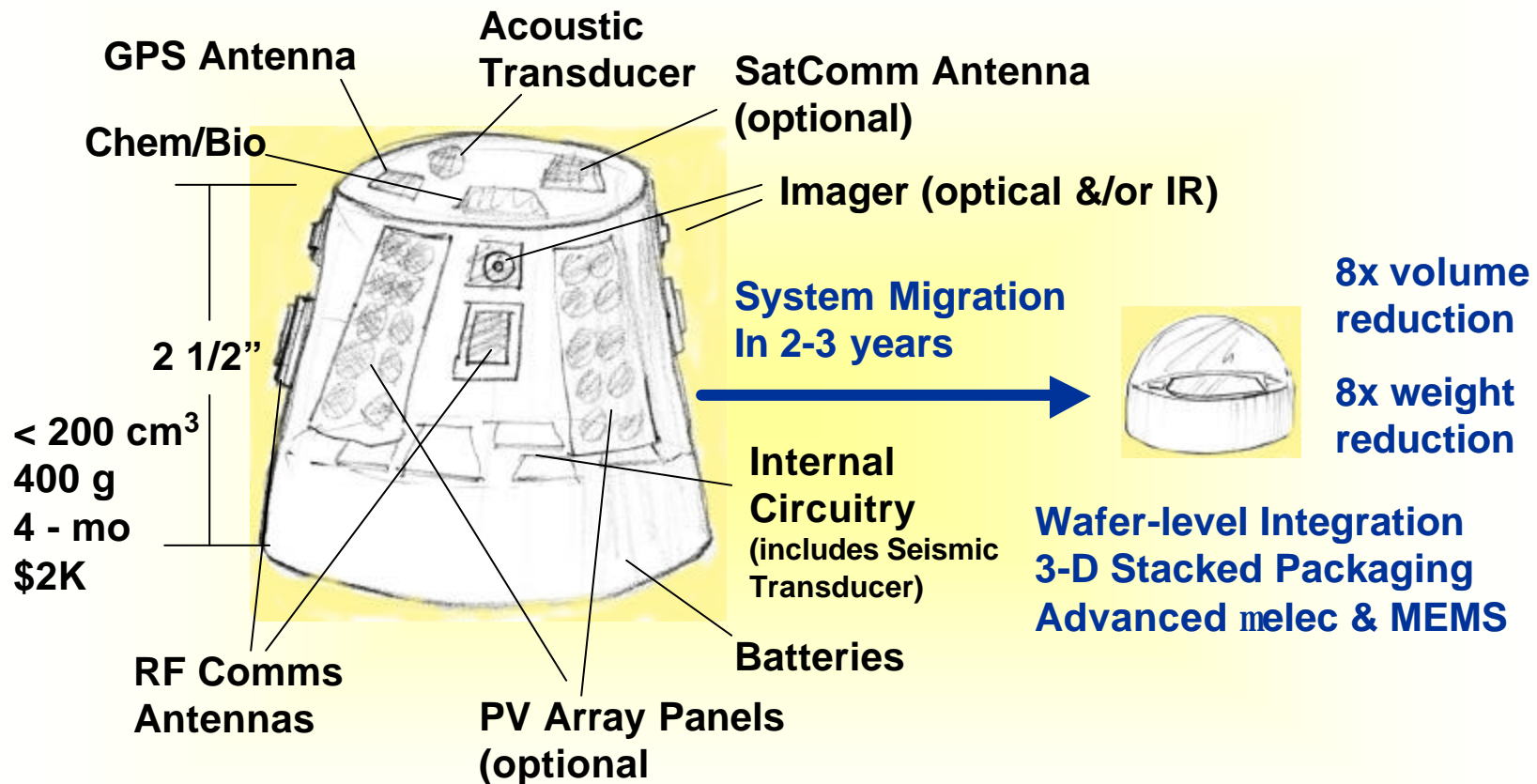- Gender roles
- Ethnicity
- Values and Beliefs

Brain/machine interface collaboration

An intimate collaboration of people and machines will be a complex adaptive system with emergent properties
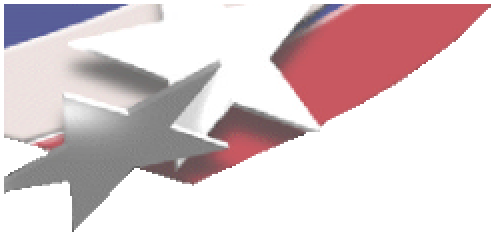
Notional SDAC system configuration

GPS Antenna

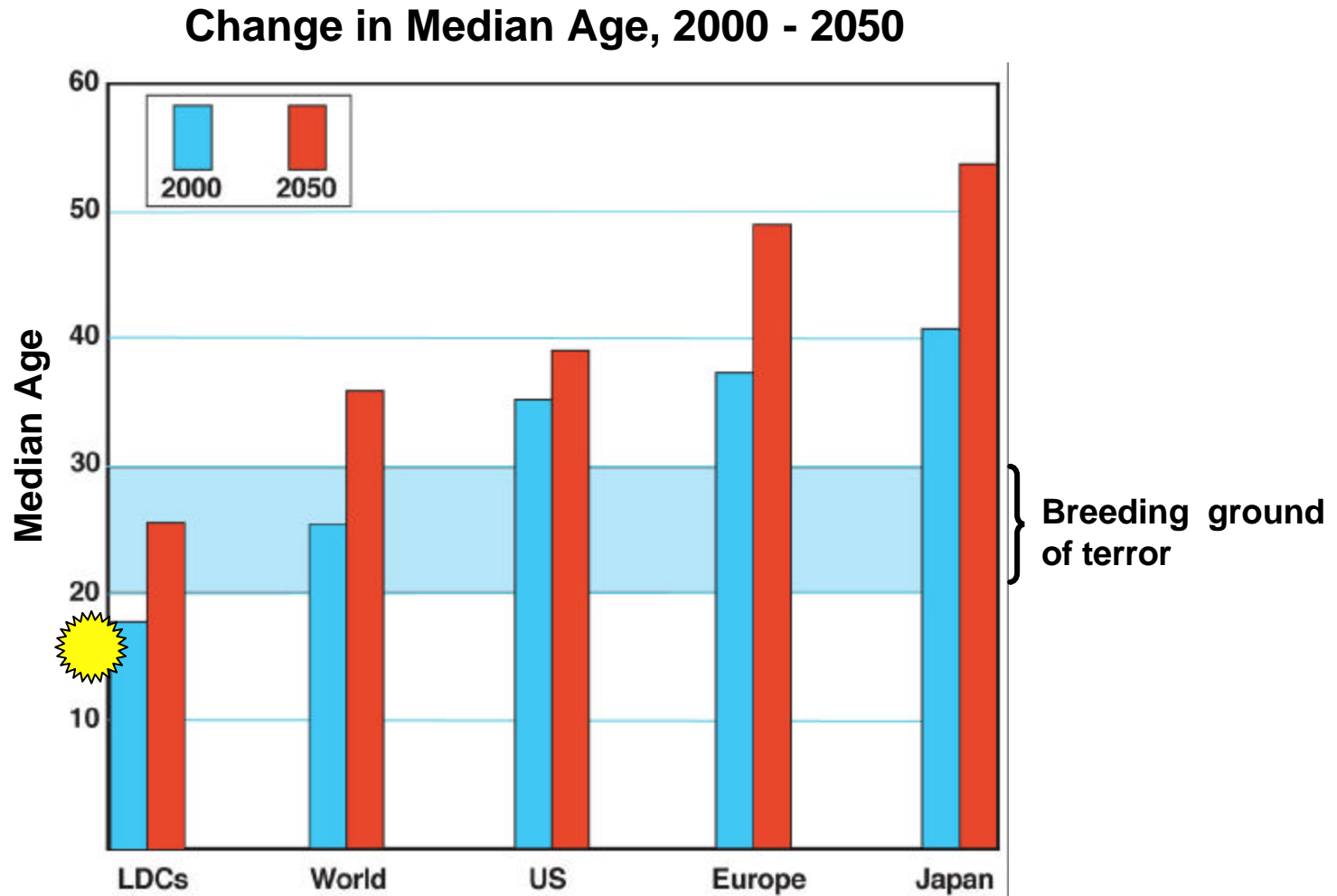Chem/Bio

Acoustic Transducer

SatComm Antenna (optional)

Imager (optical &/or IR)

2 1/2"

< 200 cm^3
400 g
4 - mo
$2K

System Migration
In 2-3 years

Internal
Circuitry
(includes Seismic
Transducer)

RF Comms
Antennas

PV Array Panels
(optional

Batteries

8x volume
reduction

8x weight
reduction

Wafer-level Integration
3-D Stacked Packaging
Advanced melec & MEMS

How does it all fit together?

The key is to better understand the future—plan to change it, and change it

Counterterror U.

Logistics/
Infrastructure

Social/
psychological
Simulation

Multidimensional
Games
Red, Blue, Green
White, Purple

scenario
driven
hypothesis

filters

MOADB

indications
& warnings

enhanced
collection

SDACs

smart decision making → individuals and groups

increase
hope

manipulate - deceive -
control - dissuade -
deter - destroy

warn first
responders
mitigate

Reality

⬟ Technology investment needed

Who is the threat?

Change in Median Age, 2000 - 2050
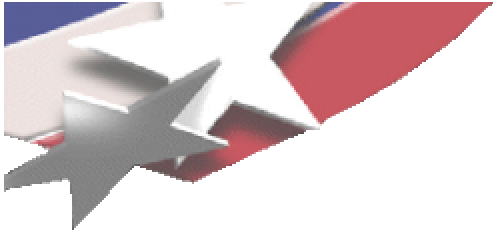

Source: UN; Census Bureau for U.S.
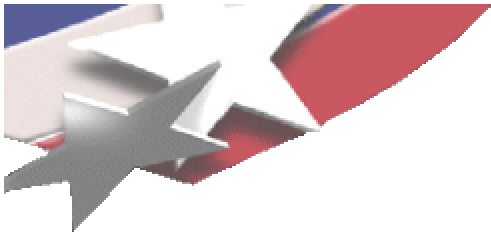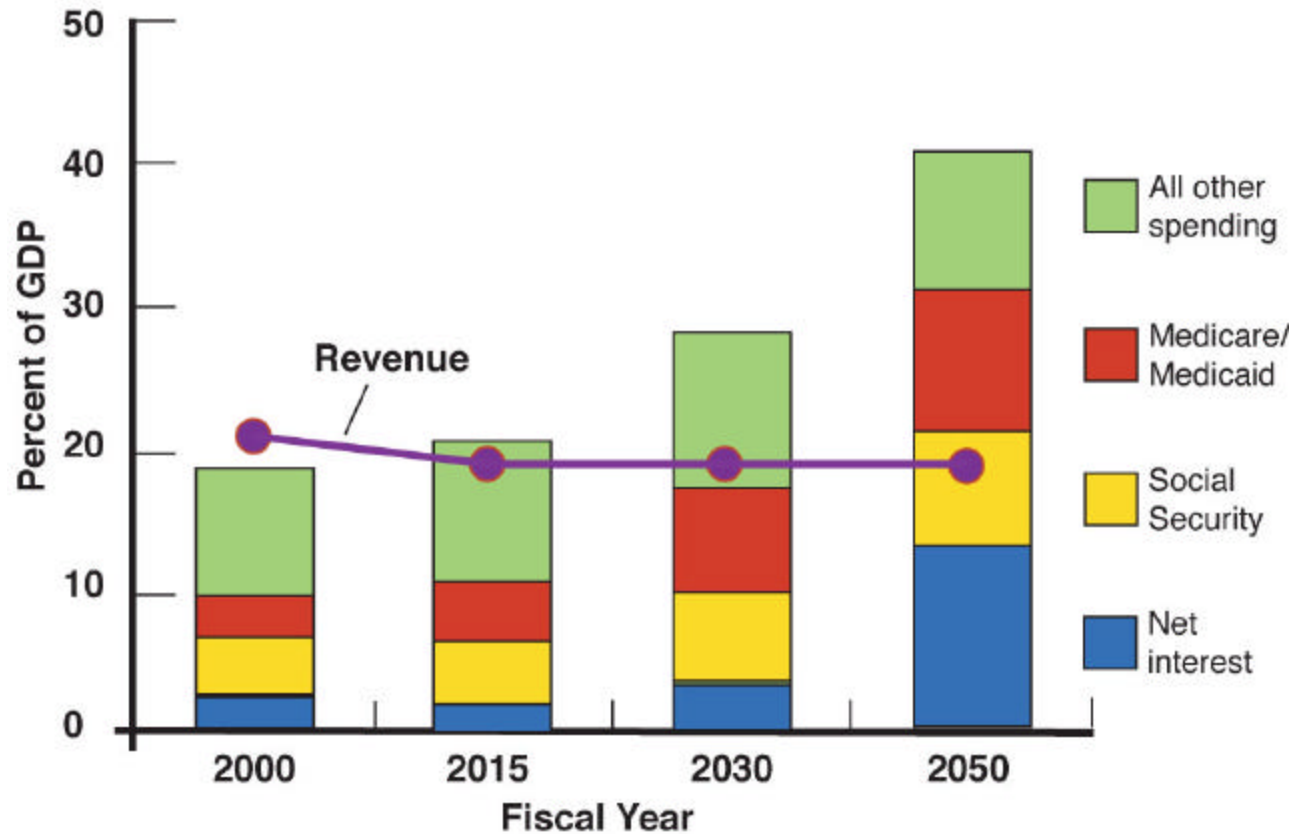* Includes all Europe plus Russia (47 countries)

An example…

Half of Yemen's population consists of children under fifteen.

With a population of 20 million, estimates of the number of firearms within Yemen's border go as high as 80 million—four for every Yemeni.

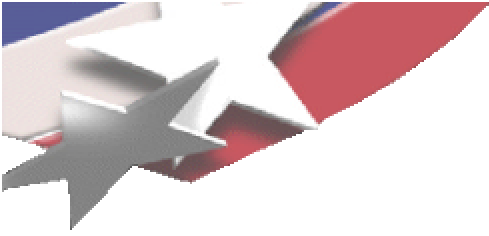Robert D. Kaplan, *The Atlantic*, April 2003

There is another threat
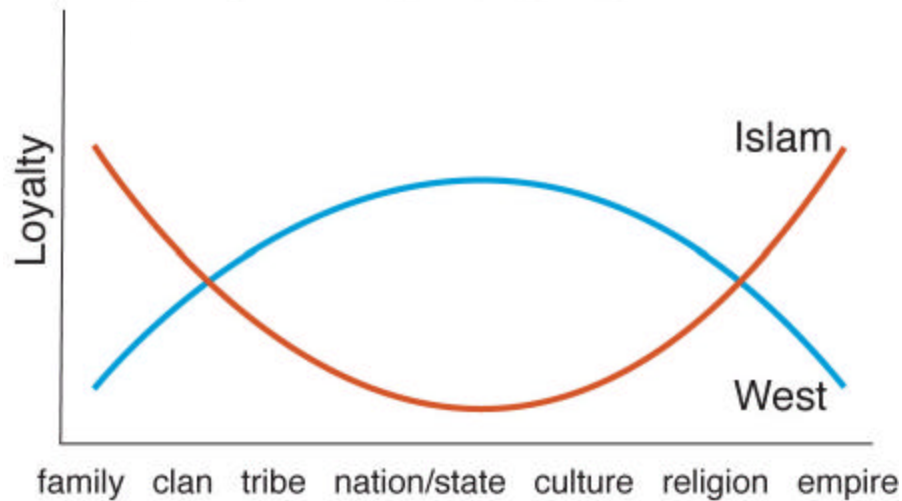

Composition of spending as a share of GDP (assuming discretionary spending grows with GDP after 2003 & the 2001 tax cuts do not sunset

Note: assumes currently scheduled Social Security benefits are paid in full throughout the simulation period.
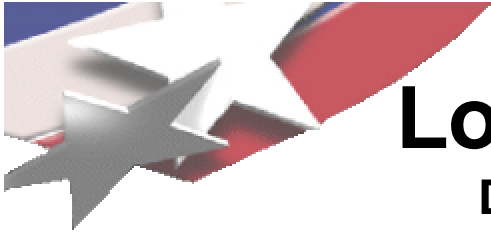
Source GAO's March 2003 analysis

Underlying attitudes

Samuel Huntington *The Clash of Civilizations*

- Fundamentalism
- Rebellion against modernism
- Unemployment
- Hate, superstition, conspiracy
- OBL as hero
- US/Israel as modern crusaders
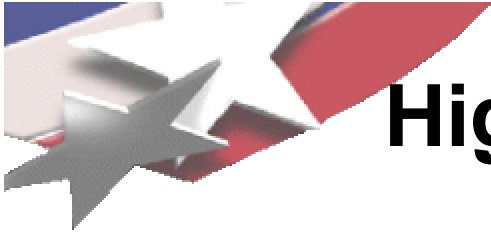- It is all "their" fault

Low road strategies (time is on their side)
Don't get caught, (but don't lose your self respect)

- Make their society worse (Iraq, Iran, Syria, Libya)
  - Health, environment, quality of life, economy, culture
- Cause citizens to engage in destructive acts
  - Bad faith, corruption, cynicism, revolution, dysfunctional economy, undermine will to fight
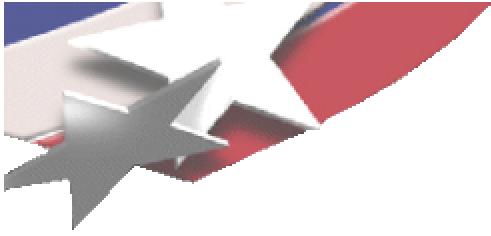 - Destroy their hope and self esteem, blame their own government

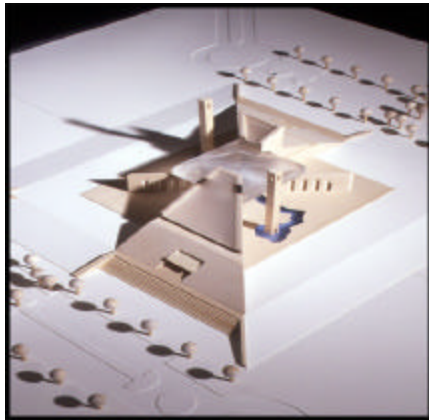# High road strategies (time is on our side)
Advertise, (build their self respect)

- Make related third party society better (Bahrain, Qatar, Jordan, UAE, Oman)
    - Health, environment, quality of life, economy, culture
- Information strategy against rogue states
- Cause rogue states to emulate third parties
- Create credibility in new government
- Build their self esteem, hope for the future
- Make their government synonymous with their people

High road mechanisms

- Sustainable economic development -- BNSL, Aqaba project
  - border security, health, water, education, high value jobs
- Connect real people to real people -- scientists, technicians, business, law

Learn from each other to solve problems by sharing a vision of hope and prosperity